CLAIMS OF THE INVENTION

I claim:

1.   A method of compressing data in a graphics processing system comprising:

defining a plurality of tiles of data;

defining a tile format table containing a status entry for each of said plurality of tiles;

compressing said tile when said compressed tile is smaller than said tile;

setting said status entry for said compressed tile in said tile format table;

storing said compressed tile in a memory.

2.   The method of claim 1 wherein said compression is lossless.

3.   The method of claim 1 wherein each of said tiles comprises a cache line.

4.   The method of claim 1 wherein tiles read from said memory are decompressed when said status bit indicates that said tile is a compressed tile.

5.   A method of compressing color pixels in a graphics processor system comprising:

defining a plurality of tiles of data;

defining a tile format table containing a status entry for each of said plurality of tiles;

compressing said tile when said compressed tile is smaller than said tile;

setting said status entry for said compressed tile in said tile format table;

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storing said compressed tile in a memory.

6. The method of claim 5 wherein each compressed tile is compressed using one of a plurality of compression methods.

7. The method of claim 6 wherein each compressed tile includes a value identifying the compression method of said plurality of compression methods used to compress said compressed tile.

8. The method of claim 6 wherein each tile is comprised of pixels having pixel color components.

9. The method of claim 8 wherein one of said compression methods comprises entropy encoded differences between adjacent pixel color components.

10. The method of claim 9 in which the assignment of entropy codes per tile is based on the frequency of occurrence of difference values within said tile

11. The method of claim 10 in which multiple component difference codes are combined into a single code per pixel.

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12.   The method of claim 9 in which unique color or component values in a tile are extracted and sorted by minimal difference, are entropy encoded, and are indexed per pixel in said tile.

13.   The method of claim 12 in which said unique colors and components are sorted in a manner that minimizes a size of pixel difference encoding and minimizes a size of color and component difference encoding.